

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Lou Gonzales)
MEETING DATE: January 23, 2007

ITEM : 6A

SUBJECT: INTERNATIONAL BUSINESS MACHINES
CORPORATION (IBM), 5600 Cottle Road, San Jose,
Santa Clara County - Rescission of NPDES Permit

CHRONOLOGY: November 1999 - NPDES Permit reissued
July 2004 - Regional General Permit for Discharge or Reuse of
Extracted and Treated Groundwater Resulting from the Cleanup of
Groundwater Polluted by Volatile Organic Compounds

DISCUSSION: This item is continued from the December 2006 Board meeting due
to lack of quorum.

The Revised Tentative Order (Appendix A) rescinds an individual permit for IBM. IBM owned and operated a computer products facility in south San Jose. In 2003, Hitachi Global Storage Technologies acquired the site, but IBM continues to own and operate a groundwater extraction and treatment system to remediate groundwater that was contaminated with solvents while IBM owned the facility. IBM reinjects its treated groundwater into the aquifer beneath the site.

This item and item 6C concern the same site. Because requirements for reinjection are being added to the Site Cleanup Requirements for item 6C, we are able to cover IBM's discharge of treated groundwater under a Regional General Permit for discharge of groundwater from solvent remediation.

We received numerous comments (Appendix B) from IBM requesting several modifications to the General Permit requirements. As explained in our December response to comments (Appendix C), these changes are unnecessary and in some cases inappropriate. Board staff met with IBM and was successful in resolving its concerns. Resolution involved revising the T.O. to allow IBM an additional three months to enroll under the General Permit. We expect this item to remain uncontested.

RECOMMENDATION: Adoption of the Revised Tentative Order

FILE NUMBER: 2189.8031

APPENDICES:

- A – Revised Tentative Order**
- B - Correspondence**
- C - Response to Comments**

APPENDIX A

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

**REVISED TENTATIVE ORDER NO. R2-2007-00XX
NPDES Permit No. CA0027961**

**RESCISSION OF WASTE DISCHARGE REQUIREMENTS FOR:
INTERNATIONAL BUSINESS MACHINES CORPORATION (IBM)
SAN JOSE, SANTA CLARA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Water Board) finds that:

1. IBM owned and operated a manufacturing complex located at 5600 Cottle Road, San Jose, Santa Clara County. The facility manufactured computer heads, disk drive equipment, and disk media, and conducted product development.
2. On November 18, 1999, the Water Board adopted National Pollutant Discharge Elimination System (NPDES) Permit No. CA0027961 for IBM through Order No. 99-094. The permit covered the discharge of on-site storm water and waste water from monitoring extraction and treatment systems. These discharges flowed to the San Jose storm drain system to Canoas Creek, which is tributary to the Guadalupe River and thence South San Francisco Bay.
3. On December 31, 2002, Hitachi Global Storage Technologies, Inc. acquired the site. Hitachi Global Storage Technologies, Inc. now monitors and reports on discharges to storm water associated with industrial activity. However, IBM continues to own and operate the on-site and off-site groundwater monitoring extraction and treatment systems.
4. On April 20, 2004, in compliance with the requirements of the NPDES permit, IBM submitted a permit reissuance application, which included a final report covering effluent and receiving water monitoring data collected through 2003. By its timely submittal of a complete application, IBM continued in effect the NPDES permit beyond the permit's expiration date.
5. IBM's permit reissuance application describes the anticipated characteristics of its discharges which include volatile organic compounds.
6. On July 21, 2004, the Water Board adopted an NPDES General Permit No. CAG912003 (Order No. R2-2004-0055) to regulate the discharge and reuse of extracted and treated groundwater resulting from the cleanup of groundwater

polluted by volatile organic compounds. All dischargers eligible for this permit may file a Notice of Intent to obtain coverage.

7. IBM qualifies for coverage under the General Permit because the discharge results from the cleanup of volatile organic compound-polluted groundwater, IBM can meet the provisions of Resolution No. 88-160 (re-use policy), and the treatment system is capable of ensuring that the discharge will meet the provisions, prohibitions, and limitations of the General Permit.
8. Because the existing individual permit is no longer needed, Order No. 99-094 should be rescinded.

IT IS HEREBY ORDERED, pursuant to provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereunder, that:

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1. Order No. 99-094 is rescinded effective May 31, 2007.
2. IBM shall file a Notice of Intent for coverage under General Permit No. CAG912003 at least 30 days prior to the rescission effective date.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Region on _____.

Bruce H. Wolfe
Executive Officer

APPENDIX B



5600 Cottle Road
San Jose, CA 95193 0001

November 14, 2006

CALIFORNIA REGIONAL WATER

NOV 15 2006

QUALITY CONTROL BOARD

Ms. Lila Tang
Chief, NPDES Division
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: IBM San Jose: NPDES Permit Renewal

Dear Ms. Tang:

On April 20, 2004 IBM submitted a NPDES permit renewal application for the IBM activities related to the groundwater remedial action at and in proximity to its' facility located at 5600 Cottle Road in San Jose, CA. This location was formerly owned by IBM Corporation and IBM has retained responsibility for groundwater remediation at this location which is covered by the Regional Water Quality Control Board (Board) Order R2-2002-0082. Effective January 1, 2003, Hitachi Global Storage Technologies, Inc. became the owner of the 5600 Cottle Road facility and is now responsible for surface water discharges other than those associated with the groundwater remediation systems.

We have been informed that it is the intent of the Board to issue IBM a new NPDES permit under RWQCB Order No. R2-2004-0055, *General Waste Discharge Requirements for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds*.

IBM appreciates the opportunity to review the potential impacts of issuing IBM a permit covering its' discharge of extracted and treated groundwater under the General Permit. IBM has worked with the Board to remediate impacts to groundwater at and in the vicinity of the 5600 Cottle Road facility since 1981, work that continues today.

The major portion of offsite groundwater cleanup has been completed and on October 14, 2005 the Board approved cessation of offsite groundwater extraction except for the near-site area immediately downgradient from the site. IBM is submitting, for the consideration of the Board, the following comments and questions related to the General Waste Discharge Requirements in Order R2-2004-0055 and associated documents and to the planned issuance of a new permit to IBM under this Order.

IBM has two primary comments regarding the requirements of Order R2-2004-0055, both relating to the Effluent Limitations Table B.1 of the General Permit.:

1. When the Board approved the cessation of the majority of offsite groundwater extraction, it required that the two primary offsite extraction wells (Wells ORB-1 and ORB-7) be maintained in operable condition so that the wells could be reactivated in response to unanticipated increases in offsite groundwater chemical concentrations. Due to this, IBM is concerned that the proposed 5 ug/l discharge limits for Freon 113 and 1,1,1-trichloroethane (TCA) would prohibit use of these wells should it become necessary to reactivate the wells in order to re-establish hydraulic control of chemical migration. Additionally, these proposed limits prohibit IBM from feasibly maintaining and sampling these wells.

When last operated, flow from Wells ORB-1 and ORB-7 was approximately 75,000 and 150,000 gallons per day respectively. Discharges of Freon 113 from Wells ORB-1 and ORB-7 are approximately 4 ug/l and 11 ug/l, respectively. Discharges of TCA from Wells ORB-1 and ORB-7 are approximately 11 ug/l from each well.

Additionally, due to the size of these wells, it is necessary to discharge in excess of 1,000 gallons of water in order to simply obtain a representative sample from these wells. Given the location and logistical constraints associated with these extraction wells, it is not feasible to collect this volume of water and transport it for treatment prior to discharge.

Wells ORB-1 and ORB-7 are installed in residential areas and due to this fact, it is not feasible to install treatment facilities such as air stripping or carbon adsorption systems. Therefore, extracted groundwater is treated by simple spray aeration with subsequent discharge to surface water via the City of San Jose storm sewer system. In summary, the discharge from these wells during normal operation, sampling, and maintenance operations will not feasibly meet the Freon 113 and TCA limits established in the General Permit.

Therefore, IBM requests that the discharge limits for Freon 113 and TCA be maintained at the current 50 ug/l value which should be sufficient to allow the wells to be operated in the event unanticipated increases in offsite groundwater concentrations of these two chemical should occur.

Alternatively, IBM requests to place Wells ORB-1 and ORB-7 in an inactive status based on Santa Clara Valley Water District requirements such that the wells will no longer be required to be operated for sampling or maintenance. In the event that chemical concentrations in the offsite area increase to a level above established cleanup criteria, IBM will request Board approval for the temporary discharge to surface water of groundwater from these wells in order to prevent undesired chemical migration.

2. IBM currently conducts sampling of numerous monitoring wells along with its' remediation systems. During the past 2 years, sixteen offsite monitoring wells have exceeded one or more of the proposed NPDES limits during the past 2 years, Wells 2-B, 2-C, 5-B, 5-C, 9-B, 9-D, 10-B, 13-B, 13-D, 15-B, 18-B, 23-B, 24-B, 29-B, 30-BC,

and ORC-1. The volume of water purged from each of these wells ranges from 190 to 300 gallons for a B-aquifer well, 330 to 530 gallons for a C-aquifer well, and about 570 gallons for a D-aquifer well, depending on total well depth and casing diameter. Containing these volumes of water during offsite sampling events is not very feasible considering the residential nature of the area in which these wells are located.

IBM requests that it be allowed to continue to discharge water from these wells using the existing NPDES permit discharge standards. Alternately, IBM requests that it be allowed to cease monitoring of these and other offsite monitoring wells since the cleanup criteria has been achieved for the off-site area in which the wells are located.

The following are comments related to implementation of the requirements specified in the General Waste Discharge Requirements in Order R2-2004-0055 and associated documents:

1. Finding 4 of the General Permit: identifies that discharges from cleanup involving reinjection of treated groundwater are normally not eligible for coverage under the General Permit. It is our understanding that the Board will modify the existing IBM Site Cleanup Requirements Order (R2-2002-0082) to incorporate the current reinjection of treated groundwater from IBM remediation activities. IBM would like the Board to confirm that this will be completed concurrently with issuance of coverage under the General Permit.
2. Finding 12 of the General Permit: related to reinjection of treated extracted groundwater, as in the preceding comment, IBM would like the Board to confirm that this will be completed concurrently with issuance of coverage under the General Permit.
3. Finding 13 of the General Permit: states that the Basin Plan allows for exceptions for a discharge if it is approved as part of a groundwater cleanup project, it has been demonstrated that neither reclamation nor discharge to a POTW is technically and economically feasible, and the discharger has provided certification of the adequacy and reliability of treatment facilities and a plan that describes procedures for the proper operation and maintenance of all treatment facilities. Since the IBM remediation systems have been operating for many years, will the Board require IBM to prepare additional documents to again make this demonstration?

Additionally, this Finding requires that prior to discharge under Order R2-2004-0055, the discharger demonstrate to the Executive Officer that their groundwater extraction and treatment systems and associated operation, maintenance, and monitoring plans constitute acceptable programs for minimizing the discharge of toxic substances to waters of the State. Since the IBM remediation systems have been operating for many years, will the Board require IBM to prepare additional documents to again make this demonstration?

4. Finding 16 of the General Permit: requires the discharger to obtain authorization to discharge from the agency having jurisdiction over the use of the storm drain system or watercourse. Since the IBM remediation systems have been operating for many years and discharging to the City of San Jose storm sewer system and to Canoas Creek, will the Board require IBM to obtain authorization from both the City of San Jose and from the Santa Clara Valley Water District for discharge of extracted and treated groundwater?
5. Discharge Prohibition A.1 of the General Permit: states that discharge to surface waters are prohibited unless a Notice of Intent (NOI) application for the proposed discharge has been submitted and the Executive Officer has provided written authorization to initiate the discharge. Since the IBM remediation systems have been operating for many years and IBM submitted a NPDES Permit Renewal Application on April 20, 2004, will the Board consider this as meeting the NOI requirements specified in the "VOC General NPDES Permit Notice of Intent Contents" document for Order No. R-2-2004-0055, NPDES No. CAG912003 or will the Board require a separate NOI to meet this requirement?
6. Discharge Prohibition A.2 of the General Permit: states that discharges are limited to extracted and treated groundwater and those added treatment chemicals approved by the Executive Officer. Since the IBM remediation systems have been operating and using an anti-scaling chemical and a pH adjustment chemical for many years, will the Board require IBM to obtain authorization for the continued use of these chemicals?
7. Discharge Prohibition A.3 of the General Permit: a limitation on the discharge flow rate will be established for the IBM discharge. The flow rate that is established for IBM's groundwater discharges should include potential discharges not only from the air stripper, but also from several off-site extraction wells (ORB-1 and ORB-7) which are currently in standby mode should the Board continue to require these wells to be maintained in a standby condition. These Wells are currently only operated during sampling and maintenance activities. However, these wells are in standby mode in the event they may be required to be operated should unexpected increases in chemicals be detected in the aquifers downgradient from the IBM site. These extraction wells discharge directly to the storm sewer system and subsequently to surface water, therefore their flow should also be included in the flow rate specified by the Board.

Should the Board continue to require that Wells ORB-1 and ORB-7 be maintained in a standby mode, IBM requests that the total flow rate limit specified in the permit be set at 1 million gallons per day for the air stripper discharge and 0.5 million gallons per day for the combined off-site well discharges.

8. Effluent Limitations Table B.1 of the General Permit: IBM requests the Board to confirm that discharges from the remediation systems, including the air stripper and off-site Wells ORB-1 and ORB-7, are considered to be discharging to "Other Surface Water Areas" and that it is these effluent limitations that IBM is expected to meet.

9. Effluent Limitations Table B.1 of the General Permit: As described above, in the event that IBM is required to re-start one or both off-site extraction Wells ORB-1 and ORB-7, the discharge from these wells will not meet the effluent limitations specified in Table B.1 for water discharged to "Other Surface Water Areas". These two wells are located in residential areas downgradient from the IBM facility and due to their locations, no treatment other than simple spray nozzle aeration has been installed and operated during the years the wells were operational. During 2005, the discharge from these wells contained Freon 113 that ranged from 3.1 to 4.8 ug/l in Well ORB-1 and from 12 to 19 ug/l in Well ORB-7 and TCA that ranged from 9.2 to 13 ug/l in Well ORB-1 and from 11 to 15 ug/l in Well ORB-7.

Therefore, IBM requests that the current effluent limitation of 50 ug/l for Freon 113 and TCA be retained for purposes of discharges from the off-site wells.

10. Water Reclamation Specification D.2 of the General Permit: requires water reclamation activities to be described in the discharger's NOI. Since the IBM remediation systems have been operating for many years and IBM submitted a NPDES Permit Renewal Application on April 20, 2004, does the Board consider this as meeting the NOI requirements specified in the "VOC General NPDES Permit Notice of Intent Contents" document for Order No. R-2-2004-0055, NPDES No. CAG912003 or will the Board require IBM to submit a separate NOI to meet this requirement?
11. Water Reclamation Specification D.9 of the General Permit: identifies that discharges from cleanup involving reinjection of treated groundwater are not eligible for coverage under the General Permit. It is our understanding that the Board will modify the existing IBM Site Cleanup Requirements Order (R2-2002-0082) to incorporate the current reinjection of treated groundwater from IBM remediation activities. IBM would like the Board to confirm that this will be completed concurrently with issuance of coverage under the General Permit.
12. Provision E.1 of the General Permit: requires that the NOI application for each point of proposed discharge to a storm drain system contain the information required in the "Notice of Intent Contents. Since the IBM remediation systems have been operating for many years and IBM submitted a NPDES Permit Renewal Application on April 20, 2004, will the Board consider this as meeting the NOI requirements specified in the "VOC General NPDES Permit Notice of Intent Contents" document for Order No. R-2-2004-0055, NPDES No. CAG912003 or will the Board require IBM to submit a separate NOI to meet this requirement?
13. Provision E.2 of the General Permit: requires the NOI application to contain specific information. Since the IBM remediation systems have been operating for many years and IBM submitted a NPDES Permit Renewal Application on April 20, 2004, will the Board consider this as meeting the NOI requirements specified in the "VOC General NPDES Permit Notice of Intent Contents" document for Order No. R-2-2004-0055, NPDES No. CAG912003 or will the Board expect IBM to submit a separate NOI to

meet this requirement?

14. Provision E.5 of the General Permit Order: requires a "Self-Monitoring Program" for dischargers. Since the IBM remediation systems have been operating for many years and IBM has been issued a specific "Self-Monitoring Program" associated with its NPDES Permit, will the Board be issuing a "Self-Monitoring Program" identical to the current program or will the Board be modifying the current IBM "Self-Monitoring Program" as part of issuing IBM coverage under the General Permit?

Additionally, this Provision identifies that the "Self-Monitoring Program for Order No. R2-2004-0055, NPDES No. CAG912003" shall be followed for six months. Since the IBM remediation systems have been operating for many years and IBM has been following the required Self-Monitoring Program described in the current NPDES Permit, will the Board expect IBM to meet the six month initial sampling requirements specified in the "Self-Monitoring Program for Order No. R2-2004-0055" or does the work previously completed for the compliance with the existing Self-Monitoring Program and the CTR Program provide sufficient data to meet this initial six month requirement?

15. Provision E.6 of the General Permit: identifies that zinc is one of the "trigger" metals of concern. On occasion, the discharges from off-site extraction Wells ORB-1 and ORB-2 have exceeded the 35 ug/L trigger level. During the past four years, concentrations of zinc in Well ORB-1 have ranged from non-detectable to 41 ug/L and in Well ORB-7 from non-detectable to 862 ug/L. During 2006, following correction of a problem with the sampling valves, zinc concentrations in Wells ORB-1 and ORB-7 have ranged from non-detectable to 10 ug/L and 16.2 to 30.5 ug/L, respectively. The recent detections are believed to be associated with background levels of zinc which, from nearby groundwater monitoring wells has ranged from 40 ug/L to 140 ug/L. Additionally, data from the Great Oaks Water Company Consumer Confidence Report indicates that concentrations of zinc in domestic groundwater supply wells has ranged from <50 ug/L to 170 ug/L.

For these reasons, IBM requests that the zinc trigger for groundwater discharged from the operation of IBM extraction and monitoring wells be set at 200 ug/L to allow for these apparent background zinc concentrations.

16. Self-Monitoring Program - Specifications for Sampling and Analysis D.2.a Effluent: indicates that samples of effluent and receiving water should be collected on days coincident with influent sampling. Currently, IBM only discharges extracted treated groundwater to the storm sewer and the receiving water in situations where the reinjection wells are not able to be operated or during sampling and maintenance activities. As such, IBM seldom discharges any extracted treated groundwater to the receiving water. IBM requests the Board to clarify whether or not sampling of the receiving water is required if no discharge to the storm sewer is or has occurred.

IBM suggests incorporating the concept of requiring sampling of the receiving water

only at such time as IBM is actually discharging to the receiving water. If IBM does not discharge extracted treated groundwater to the receiving water, no sample of the receiving water would be taken.


17. Self-Monitoring Program - Start Up Phase Monitoring and Reporting: Since the IBM remediation systems have been operating for many years, will the Board eliminate the requirement to meet the elements of this portion of the "Self-Monitoring Program"?
18. Self-Monitoring Program - Reports to be Filed with the Board, 7: indicates a report describing aspects of the use of chemical application and disposal shall be submitted to the Board at least 30 days prior to beginning the use of any chemical in the treatment or operation and maintenance of the treatment units. As indicated in Comment 6 above, the IBM remediation systems have been operating and using pH adjustment and anti-scaling chemicals for many years. Will the Board accept these additions as described in our NPDES Permit renewal application or will the Board require that IBM obtain authorization for the continued use of these chemicals?

Additionally, IBM requests that the Board clarify what is meant by "...prior to the use of any chemical in the treatment or operation and maintenance of the treatment units...". Does this requirement mean that if a lubricant utilized to maintain a motor on the air stripper is changed or other equipment maintenance chemical is added or changed that IBM must obtain pre-approval of the Board for this change or is this requirement intended to only cover chemicals which come in contact with the groundwater being treated?

In the above comments, IBM has proposed several modifications to the General Permit requirements for consideration by the Board. These modifications have been proposed to assure that IBM's discharge continues to provide appropriate protection of the environment, continues to meet the requirements of the Board, and are feasible to meet considering the remediation activities that IBM has been conducting for the past 25 years. If the Board has any questions or comments related to the above items, we would welcome the opportunity to discuss the modifications with you at your convenience.

If you have any questions or comments regarding the above items, please contact Jim Dumanowski at (408) 284-4739.

Sincerely yours,

 11/14/2006

John Lattyak
Manager, Site Operations

cc: Lou R. Gonzales Regional Water Quality Control Board
Max Shahbazian Regional Water Quality Control Board
John McHugh Santa Clara Valley Water District
Ms. Elizabeth Zimmermann Hitachi Global Storage Technologies
Dean Chartrand IBM Corproation
Bill Fowler Golder Associates
Laura Kennedy Kennedy/Jenks
Napp Fukuda City of San Jose
Richard Fuchs Santa Clara County